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OFFICE OF RESPONSE & RESTORATION

Office of Response *and* Restoration  
*Prevention, Preparedness, Response, and Restoration*



# Selecting the best risk management option: A natural resource trustee perspective

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## Environmental dredging Terry Creek, GA

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# How to be an Effective Natural Resource Trustee

- Advocate protection and restoration of trust resources
- Consider big picture
- Strive for efficiency and consensus
- Be open-minded and flexible
- Promote effective decision making

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# Resolving Natural Resource Liability

When actions adequately protect and restore trust resources....

responsible parties can be released from liability for injury to natural resources

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# Decision Framework

- Scope problem
- Define “acceptable” risk in advance of risk assessment
- Conduct sampling and testing
- Characterize risk using site specific data
- Interpret site data to determine threshold sediment concentration required to reach acceptable risk





# Framework Continued

- Select a cleanup level using risk data, other factors, feasibility
- Identify areas exceeding risk concentrations, to what depth
- Identify and evaluate remedial options
- Mitigate for harm of remedy
- **Incorporate restoration where feasible**
- **Monitor success by measuring risk drivers**





# Define Acceptable Risk

(when no action, except monitoring, is needed)

- Include all stakeholders
- Prepare for uncertainty
- For each assessment endpoint consider:
  - Time scale
  - Extent
  - Magnitude



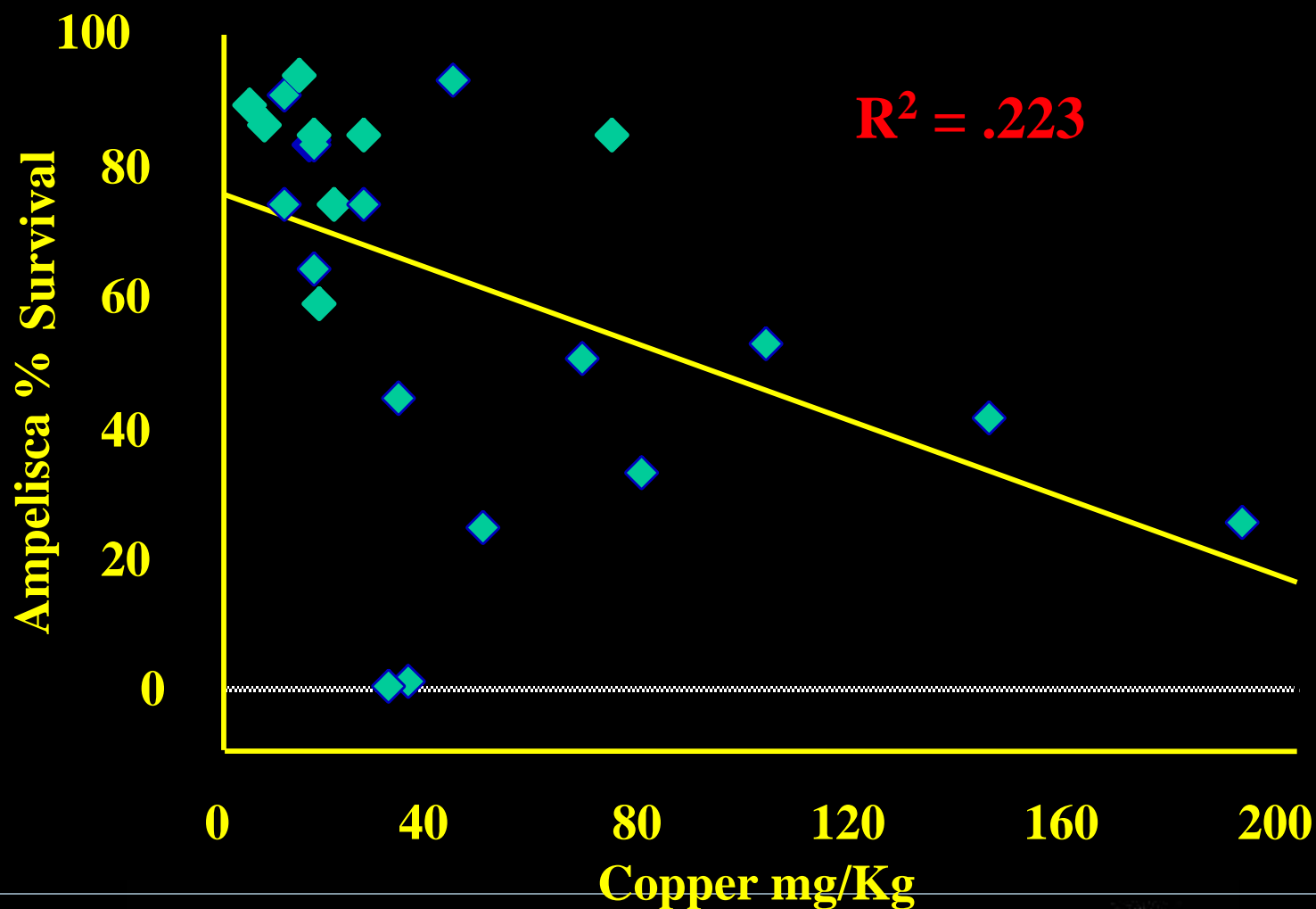
# Interpret Site-Specific Data

- Devote sufficient time and talent
- Attempt to explain outliers
- Identify lowest threshold for effects
- Evaluate significance of uncertainty
- Risk should drive remedy



Calcasieu, LA 1996 EPA

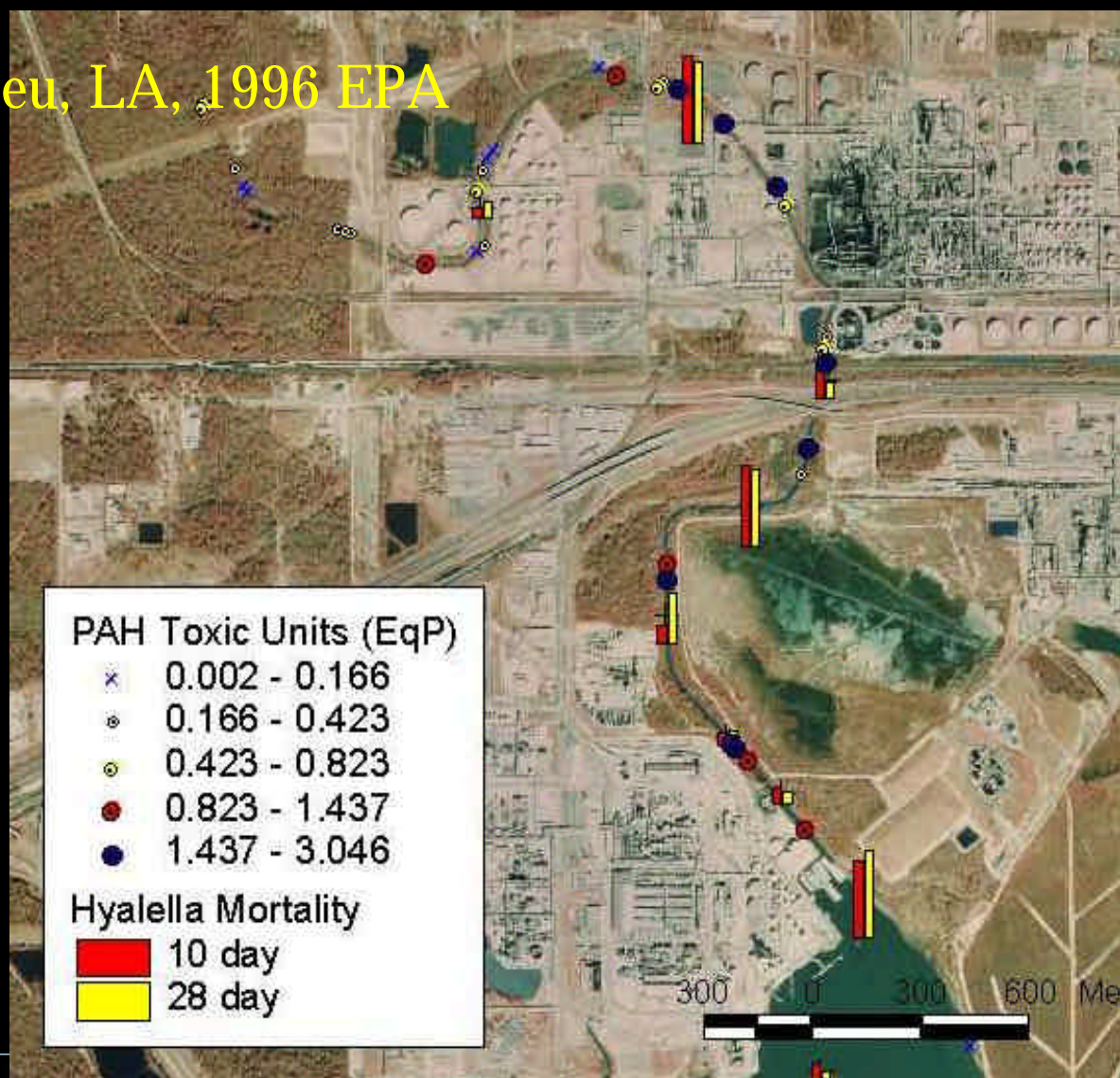
Bulk Sediment Concentrations



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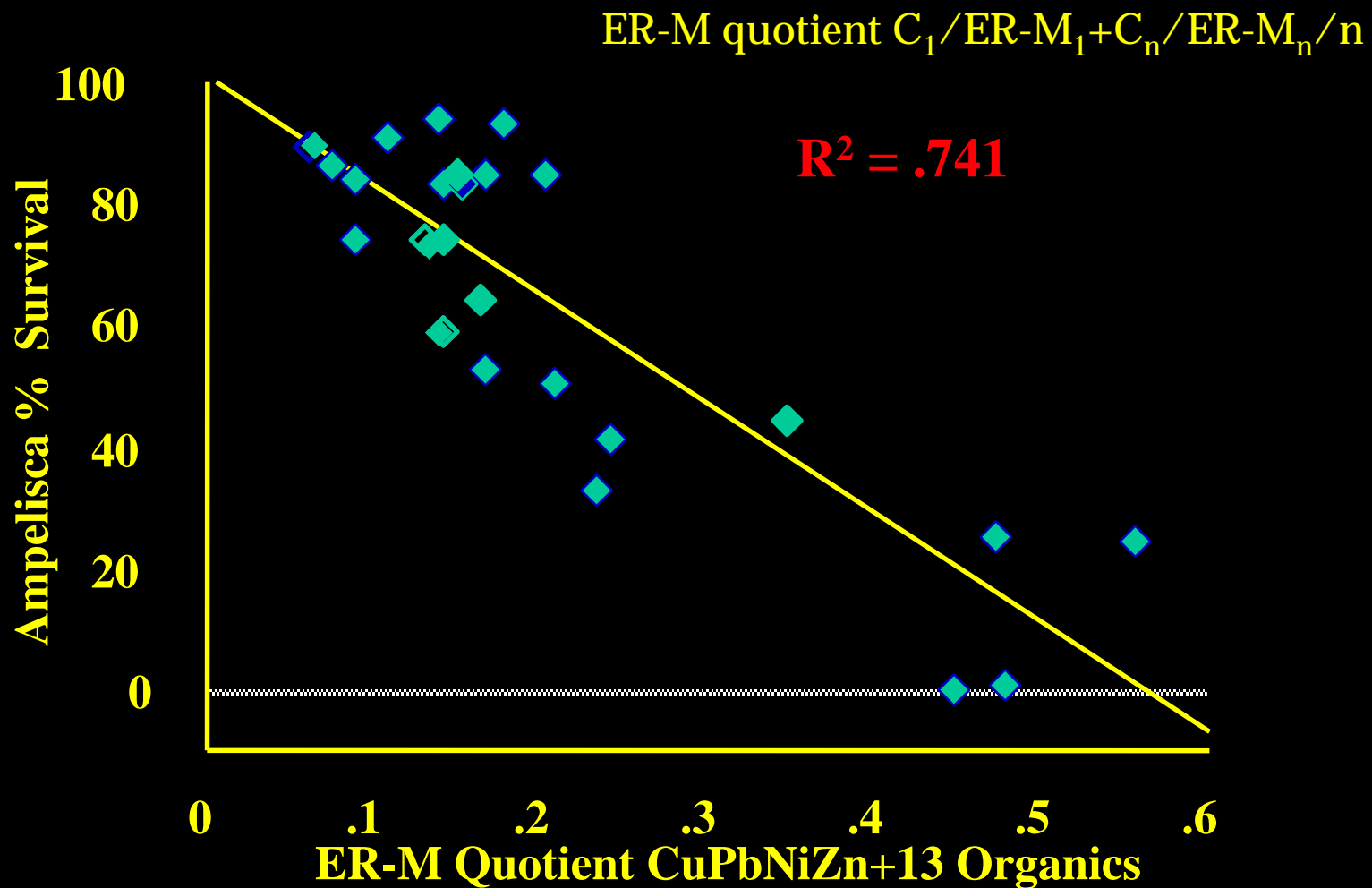


## Calcasieu, LA, 1996 EPA



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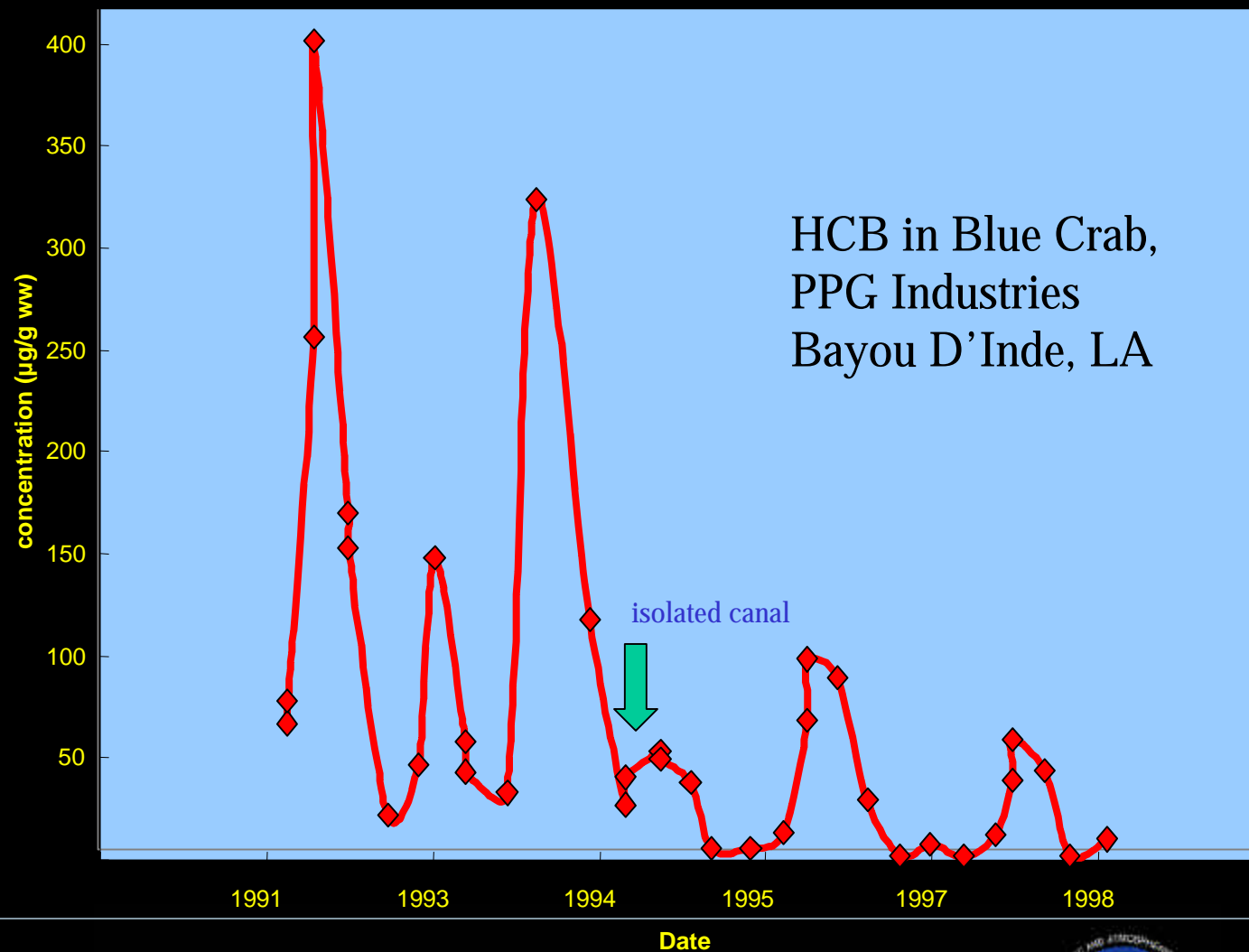


# Monitor by Measuring Risk Drivers

- Define success in risk terms
  - Conduct repeated measurements
  - Collect baseline data before remedy
  - Continue monitoring after remediation
    - Consider life-span of target organisms
    - Be prepared for the long-term
    - Use resident organisms where feasible
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# Incorporating Restoration

- Improve mitigation
- Build trust and mutual respect
- Be flexible
- Use early stipulations to streamline process
- Create a good public image for all parties



# Naval Construction and Battalion Center, Rhode Island

- Multi-use landfill and PCB contaminated wetland
- Excavated wetland, capped landfill
- Extensive wetland construction and restoration included as mitigation and compensation
- Factors:
  - Trustees took the burden of design
  - Navy felt total costs were reasonable
  - State involvement

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# Bailey, Texas

- PAHs, metals, VOCs
- Excavated contaminated wetland
- 28 acre wetland restoration
- Factors:
  - Trustees engaged RPs directly
  - RP input at all stages of negotiations
  - Mutually respected (local) RP consultant
  - Flexible and reasonable cash-out settlement





## Restored wetland at LCP, Georgia

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